

### **REMARKS**

The Examiner is thanked for the performance of a thorough search, for the careful reading of the disclosure, and for considering the references included in the Information Disclosure Statements (IDS) filed on June 1, 2004, June 9, 2004, June 10, 2005, and December 4, 2006.

Claims 1-10, 12-21, 22-29, and 30-39 have been amended. Claim 11 has been canceled. No claims have been added. Hence, Claims 1-10 and 12-39 are pending in the present application.

Each issue raised in the Office Action mailed October 4, 2007 is addressed hereinafter.

#### **I. ISSUES NOT RELATING TO PRIOR ART**

##### **A. OBJECTIONS TO THE DRAWINGS**

The drawings were objected to because FIG. 1A includes “Switch 106”, “CPE B 170”, and reference characters “DLCI 21” and “DLCI 22” that are not mentioned in the specification. This objection is addressed by amending paragraph [0040] of the specification. Specifically, paragraph [0040] is amended to describe “Switch 106”, “CPE B 170”, “DLCI 21”, and “DLCI 22”, thus conforming the specification to FIG. 1A as originally filed. No new matter is introduced by this amendment to specification.

For the above reason, reconsideration and withdrawal of the objection to the drawings is respectfully requested.

##### **B. OBJECTIONS TO THE SPECIFICATION**

Paragraph [0100] of the specification was objected to because of a typographical error. Paragraph [0100] has been amended herein to correct the typographical error. No new matter is introduced by this amendment to specification. For the above reason, reconsideration and withdrawal of the objection to the specification is respectfully requested.

C. REJECTIONS OF CLAIMS 1, 12, 22, AND 30 UNDER 35 U.S.C. § 112

Independent Claims 1, 12, 22, and 30 were rejected under 35 U.S.C. § 112, second paragraph because of an informality.

Claims 1, 12, 22, and 30 have been amended herein to correct the informality. Specifically, the device referenced in the preambles of these claims is referred to as a “first” device, and the device terminating the virtual circuit is referred to as a “second” device. For this reason, reconsideration and withdrawal of rejection of Claims 1, 12, 22, and 30 under 35 U.S.C. § 112 is respectfully requested.

II. ISSUES RELATING TO THE CITED ART

A. INDEPENDENT CLAIM 1

Claim 1 was rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Lund et al., U.S. Patent Application Publication No. US 2003/0078999 (“LUND”) in view of Arndt, U.S. Patent No 6,826,611 (“ARNDT”). The rejection is respectfully traversed.

Among other features, Claim 1 comprises:

...;  
**the first device requesting a list of identifiers** corresponding to virtual circuits **from a configuration interface for the virtual circuit network;**  
**receiving the list of identifiers** corresponding to virtual circuits **from the configuration interface for the virtual circuit network;** and  
iteratively applying each identifier to individual instances of interface configuration commands until connectivity with a remote device is established, comprising the steps of:  
**requesting, from a second device terminating the virtual circuit** corresponding to an identifier selected from the list, **an IP address of the second device;**  
...;  
**receiving the IP address of the second device** terminating the virtual circuit corresponding to the identifier selected from the list;  
...

Thus, Claim 1 comprises the features of: a first device (the device being provisioned) requesting a list of virtual circuit identifiers from a configuration interface for the virtual circuit network; and receiving the list of virtual circuit identifiers from the configuration interface for the virtual

circuit network. Claim 1 also comprises the features of: requesting, from a second device terminating the virtual circuit, an IP address of the second device; and receiving the IP address of the second device terminating the virtual circuit. These features are not described or suggested by the cited references.

1. LUND does not describe or suggest the features of Claim 1 of: requesting a list of virtual circuit identifiers from a configuration interface for the virtual circuit network; and receiving the list of virtual circuit identifiers from the configuration interface for the virtual circuit network.

The Office Action asserts that LUND describes the above features of Claim 1 in paragraph [0020]. This assertion is incorrect.

In paragraph [0020], LUND describes that a DSL customer premise equipment (CPE) device may detect configuration information that may be used to configure a permanent virtual circuit (PVC) between the CPE device and a DSL access module in a provider network. Specifically, in paragraph [0022], LUND describes that during initialization or start-up, an event management module of the CPE device may send to the DSL access module different test packets with different probe values. The different probe values are stored as a list in a virtual circuit (VC) table in the CPE device.

Significantly, however, LUND describes that the VC table is stored in the CPE device **by the vendor when the CPE device is manufactured**. For example, in paragraph [0026] LUND expressly describes that different vendors of CPE equipment may hardcode different VPI (Virtual Path Identifiers) and VCI (Virtual Channel Identifiers) values in the VC table of a CPE device **when the CPE device is manufactured**. Thus, in LUND the probe values, which are used to test for valid VCs to a DSL access module, are **hardcoded** in a CPE device **by the vendor** that manufactures the device. (See also LUND, paragraphs [0018] and [0037]). Further, LUND

describes that **not all** probe values hardcoded in the VC table of the CPE device represent **valid** virtual circuits to DSL access modules because a DSL access module may not be provisioned with the same values as the CPE device. (See, for example, LUND, paragraphs [0020] and [0026].)

In contrast, Claim 1 comprises the features of: a first device requesting a list of virtual circuit identifiers from a configuration interface for the virtual circuit network; and receiving the list of virtual circuit identifiers from the configuration interface for the virtual circuit network. Thus, in Claim 1 the device being provisioned **requests** a list of virtual circuit identifiers **from a configuration interface** for the virtual circuit network, and **receives** the requested list **from the configuration interface** for the virtual circuit network. Further, since the configuration interface for the virtual circuit network provides the list of virtual circuit identifiers, in Claim 1 **all** identifiers in the list of virtual circuit identifiers would be **valid** from the perspective of the device being provisioned.

For these reasons, LUND does not describe or suggest the features of Claim 1 of: requesting a list of virtual circuit identifiers from a configuration interface for the virtual circuit network; and receiving the list of virtual circuit identifiers from the configuration interface for the virtual circuit network.

2. ARNDT does not describe or suggest the features of Claim 1 of: requesting, from a second device terminating the virtual circuit, an IP address of the second device; and receiving the IP address of the second device terminating the virtual circuit.

The Office Action asserts that ARNDT describes the above features of Claim 1 in col. 5, lines 37-45. This assertion is incorrect.

In general, ARNDT describes a method for obtaining an Internet Protocol (IP) configuration automatically when a configuration is not obtainable from a DHCP (Dynamic Host Configuration Protocol) server. Specifically, ARNDT describes that network traffic in a local area network is continuously monitored to identify local addresses, corresponding subnet masks, and local routers and servers. The collected information is stored in a database and after a period of time, valid and invalid IP subnets are determined. (ARNDT, col. 2, lines 20-29.) ARNDT also describes that, after a valid source IP address in a subnet is determined, a discovery request with this source IP address may be broadcasted in the network in order to discover more information about the network configuration and the hosts thereon. (ARNDT, col. 5, lines 37-49.) Significantly, however, neither the passages cited in the Office Action nor any other passages from ARNDT describe or suggest sending requests for IP addresses to, or receiving IP addresses from, devices that terminate virtual circuits.

In contrast, Claim 1 comprises the features of: requesting, from a second device terminating the virtual circuit, an IP address of the second device; and receiving the IP address of the second device terminating the virtual circuit. Thus, in Claim 1 a device being provisioned requests the IP address of another device that terminates a virtual circuit, and receives the requested IP address from the other device that terminates the virtual circuit. Since ARNDT does not even mention anything about virtual circuits or networks in which virtual circuits may be established, ARNDT does not describe or suggest these features of Claim 1.

For the above reasons LUND and ARNDT, whether taken alone or in combination, do not describe or suggest all features of Claim 1. Thus, Claim 1 is patentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT. Reconsideration and withdrawal of the rejection of Claim 1 is respectfully requested.

B. INDEPENDENT CLAIMS 12, 22, AND 30

Claims 12, 22, and 30 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT.

Claims 12, 22, and 30 include features similar to the features of Claim 1 discussed above, except in the context of an apparatus and a computer-readable medium. For this reason, Claims 12, 22, and 30 are patentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT for at least the reasons given above with respect to Claim 1. Reconsideration and withdrawal of the rejection of Claims 12, 22, and 30 is respectfully requested.

C. DEPENDENT CLAIMS 2-10, 13-21, 23-29, AND 31-39

Claims 3-4, 7-9, 14-15, 18-20, 24-25, 28-29, 32-33, and 36-38 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT. Claims 2, 10, 13, 21, 23, 31, and 39 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT and further in view of Reece et al., WO 1999/041937 (“REECE”). Claims 5, 16, 26, and 34 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT and further in view of Douglas E. Comer, *Computer Networks and Internets*, Prentice Hall 1997 (“COMER”). Claims 6, 17, 27, and 35 were rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over LUND in view of ARNDT and further in view of “Using the ARP and Inverse ARP Protocols”, *OpenROUTE Networks*, 1998 (“OpenROUTE”).

Each of Claims 2-10, 13-21, 23-29, and 31-39 depends from one of independent Claims 1, 12, 22, and 30, and thus includes each and every feature of the independent base claim. Furthermore, in rejecting Claims 2, 5, 6, 10, 13, 16, 17, 21, 23, 26, 27, 31, 34, 35, and 39 the Office Action relies explicitly on LUND and ARNDT, and not on REECE, COMER, or OpenROUTE, to show the features discussed above with respect to Claims 1, 12, 22, and 30. Because LUND and ARNDT do not teach the subject matter of Claims 1, 12, 22, and 30, any

combination of LUND and ARNDT with the other three references necessarily fails to teach the complete combination recited in any dependent claim of Claims 1, 12, 22, or 30. Thus, each of Claims 2-10, 13-21, 23-29, and 31-39 is allowable for the reasons given above for Claims 1, 12, 22, and 30.

In addition, each of Claims 2-10, 13-21, 23-29, and 31-39 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those features is not included at this time. Therefore, it is respectfully submitted that Claims 2-10, 13-21, 23-29, and 31-39 are allowable for the reasons given above with respect to Claims 1, 12, 22, and 30. Reconsideration and withdrawal of the rejection of Claims 2-10, 13-21, 23-29, and 31-39 is respectfully requested.

### III. CONCLUSION

The Applicants believe that all issues raised in the Office Action have been addressed. Further, for the reasons set forth above, the Applicants respectfully submit that allowance of the pending claims is appropriate. Reconsideration of the present application is respectfully requested in light of the amendments and remarks herein.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a law firms check for the petition for extension of time fee is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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